WEST Search History

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DATE: Tuesday, July 20, 2004

Hide?	Set Name	Query	Hit Count
		DB=USPT,EPAB,JPAB,DWPI,TDBD; PLUR=NO; OP=ADJ	
☐	L16	L15 same nematic	10
☐	L15	color filter near2 array	1960
☐	L14	L12 and nematic	1
☐	L13	L12 same nematic	0
☐	L12	aoc or coa	9419
☐	L11	l2 and stn	2
☐	L10	l2 and filter	2
☐	L9	L2 and ocb	1
☐	L8	L2 and display and nematic	9
☐	L7	L2 and display	10
☐	L6	l2 and device	0
☐	L5	l2 and device	0
☐	L4	us-20020030180-$.did.	1
☐	L3	l2 and nematic	9
☐	L2	us-6723866-$.did. or us-6716491-$.did. or us-4970022-$.did. or jp-2002012871-$.did. or jp-2002003844-$.did. or De-10133867-$.did.	12
☐	L1	us-6723866-$.did. or us-6716491-$.did. or us-4970022-$.did. or jp-2002012871-$.did. or jp-2002003844-$.did. or wo-2002012415-$.did.	10

END OF SEARCH HISTORY

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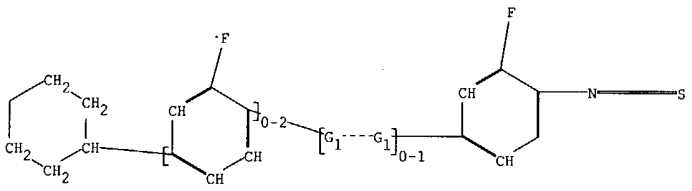
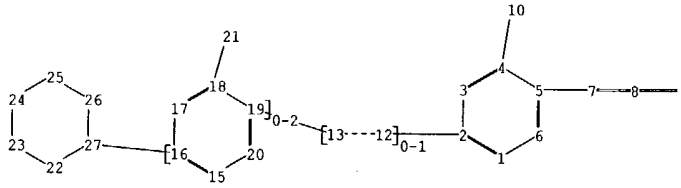




chain nodes :
7 8 9 10 12 13 21
ring nodes :
1 2 3 4 5 6 15 16 17 18 19 20 22 23 24 25 26 27
chain bonds :
2-12 4-10 5-7 7-8 8-9 12-13 13-19 16-27 18-21
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 15-16 15-20 16-17 17-18 18-19 19-20 22-23 22-27
23-24 24-25 25-26 26-27
exact/norm bonds :
2-12 5-7 7-8 8-9 12-13 13-19 22-23 22-27 23-24 24-25 25-26 26-27
exact bonds :
4-10 16-27 18-21
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 15-16 15-20 16-17 17-18 18-19 19-20

G1:C,O

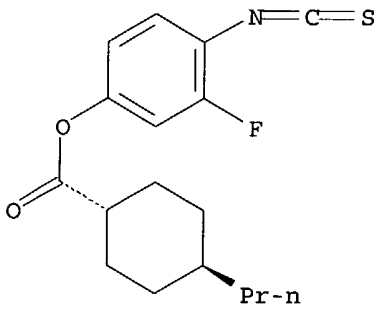
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 10:CLASS
12:CLASS 13:CLASS 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:CLASS
22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom

AN 1988:464506 CAPLUS
DN 109:64506
ED Entered STN: 19 Aug 1988
TI Liquid-crystal isothiocyanates for electrooptical display devices
IN Schueble, Bernhard; Eidenschink, Rudolf; Krause, Joachim; Poetsch, Eike; Waechtler, Andreas
PA Merck Patent G.m.b.H., Fed. Rep. Ger.
SO Ger. Offen., 11 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C07C161-04
ICS C09K019-06; C07D239-26; G02F001-13
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 75
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3545345	A1	19870702	DE 1985-3545345	19851220
	WO 8703870	A1	19870702	WO 1986-EP720	19861206
	W: JP, KR, US				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	EP 250505	A1	19880107	EP 1987-900109	19861206
	EP 250505	B1	19900704		
	R: CH, DE, FR, GB, IT, LI, NL, SE				
	JP 63502114	T2	19880818	JP 1987-500679	19861206
	US 4970022	A	19901113	US 1987-110756	19870819
PRAI	DE 1985-3545345		19851220		
	WO 1986-EP720		19861206		

AB Isothiocyanates of the general formula R(A1Z1)nA2Z2A3NCS, where R = H or C1-15 alkyl in which 1 or 2 non-neighboring CH2 groups can be replaced by O, CO, OCO, and/or COO; A1,A2 = (un)substituted 1,4-cyclohexylene, piperidine-1,4-diyl, 1,4-bicyclo[2.2.2]octylene, or 1,4-phenylene, optionally substituted by 1 or 2 F, Cl, Me, and/or CN and in which 1 or 2 CH groups can be replaced by N; A3 = (un)substituted 1,4-cyclohexylene or 1,4-phenylene, optionally substituted by 1 or 2 F, Cl, Me, CF3, and/or CN; Z1, Z2 = COO, OCO, O, CH2CH2, CHCNCH2, CH2CHCN, CH:CH, OCH2, CH2O, CH:N, N:CH, NO:N, N:NO, or a single bond; and n = 0, 1, or 2 (when Z2 = COO, (A1Z1)nA2 is not 1,4-phenylene or cyclohexylenylphenylene), useful in liquid-crystal display devices, are prepared trans-4-(4-Isothiocyanatocyclohexyl)heptylcyclohexane was prepared from trans-4-(4-chlorocyclohexyl)heptylcyclohexane and ammonium thiocyanate.
ST liq crystal isothiocyanate; electrooptical display isothiocyanate liq crystal
IT Liquid crystals
(isothiocyanates)
IT Optical imaging devices
(electro-, liquid-crystal, isothiocyanates for)
IT 104569-88-2P 113825-53-9P 113825-54-0P 113825-55-1P 113825-56-2P 113825-57-3P 113825-58-4P **113825-59-5P** 113825-60-8P
RL: PREP (Preparation)
(preparation of, for liquid-crystal electrooptical display devices)
IT 75-15-0, reactions 121-44-8, reactions 463-71-8 463-73-0 1762-95-4 113825-61-9 113825-62-0 113825-63-1 113825-65-3 113825-66-4 113825-67-5 113825-68-6 113825-69-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of liquid-crystal isothiocyanates)
IT **113825-59-5P**
RL: PREP (Preparation)
(preparation of, for liquid-crystal electrooptical display devices)
RN 113825-59-5 CAPLUS
CN Cyclohexanecarboxylic acid, 4-propyl-, 3-fluoro-4-isothiocyanatophenyl ester, trans- (9CI) (CA INDEX NAME)

Relative stereochemistry.



TI Nematic liquid crystal mixture showing excellent properties suitable for liquid crystal display

IN Tarumi, Kazuaki; Schuler, Brigitte; Bremer, Matthias; Finkenzeller, Ulrich; Poetsch, Eike; Kneile, Hieke

PA Merck Patent G.M.B.H., Germany

SO Jpn. Kokai Tokkyo Koho, 27 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09K019-30
ICS C09K019-10; C09K019-12; C09K019-14; C09K019-20; C09K019-32; C09K019-34; G02F001-13; G02F001-139

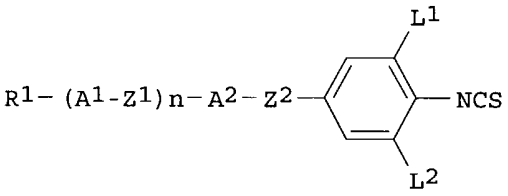
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 75

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002012868	A2	20020115	JP 2001-137755	20010508
	US 2002030180	A1	20020314	US 2001-850408	20010508
	US 6716491	B2	20040406		
PRAI	EP 2000-109161	A	20000508		

OS MARPAT 136:110199

GI



I

AB The invention relates to a nematic liquid crystal mixture having pos. dielec. anisotropy containing I (R1 = C1-12-alkyl, alkoxy, alkenyl; Z1, Z2 = -O-, -COO-, -OCO-, -CH2CH2-, -CH:CH-, -CF2CF2-, -CF2O-, -OCF2-, -CH2O-, -OCH2-, -CF:CF-, single bond; A1, A2 = trans-1,4-cyclohexylene, 1,4-biphenylene, etc.; n = 0, 1; L1, L2 = H, F). The mixture also contains other specified compds. (described with Markush structures). The liquid crystal mixture shows high clear point and higher holding ratio suitable for liquid crystal displays.

ST nematic liq crystal mixt synthesis display

IT Liquid crystal displays
(nematic liquid crystal mixture showing excellent properties suitable for liquid crystal display)

IT Liquid crystals
(nematic; nematic liquid crystal mixture showing excellent properties suitable for liquid crystal display)

IT 81793-57-9 81793-59-1 87260-24-0 131819-23-3 133914-49-5 133937-72-1 135734-59-7 135734-60-0 137644-54-3 139215-80-8
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(nematic liquid crystal mixture showing excellent properties suitable for liquid crystal display)

IT **243651-32-3P 243651-36-7P**
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of nematic liquid crystal mixture showing excellent properties suitable for liquid crystal display)

IT 100-39-0, Benzyl bromide 288-32-4, Imidazole, reactions 463-71-8, Thiophosgene 5509-65-9, 2,6-Difluoroaniline 6160-65-2 7726-95-6,

Bromine, reactions 88419-51-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of nematic liquid crystal mixture showing excellent properties suitable for liquid crystal display)

IT 67567-26-4P, 4-Bromo-2,6-difluoroaniline 389088-33-9P 389088-34-0P
389088-35-1P 389088-36-2P 389088-37-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of nematic liquid crystal mixture showing excellent properties suitable for liquid crystal display)

IT **243651-33-4P 243651-34-5P 243651-35-6P**
243651-37-8P 243651-40-3P 243651-41-4P
243651-42-5P 389088-38-4P 389088-39-5P
389088-40-8P 389088-41-9P 389088-42-0P
389088-43-1P 389088-44-2P 389088-45-3P
389088-46-4P 389088-47-5P 389088-48-6P
389088-49-7P 389088-50-0P 389088-51-1P
389088-52-2P 389088-53-3P 389088-54-4P
389088-55-5P 389088-56-6P 389088-57-7P
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389088-67-9P 389088-68-0P 389088-69-1P
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389088-79-3P 389088-80-6P 389088-81-7P
389088-82-8P 389088-83-9P 389088-84-0P
389088-85-1P 389088-86-2P 389088-87-3P
389088-88-4P 389088-89-5P 389088-90-8P 389088-91-9P 389088-92-0P
389088-93-1P 389088-95-3P 389088-96-4P 389088-97-5P 389088-98-6P
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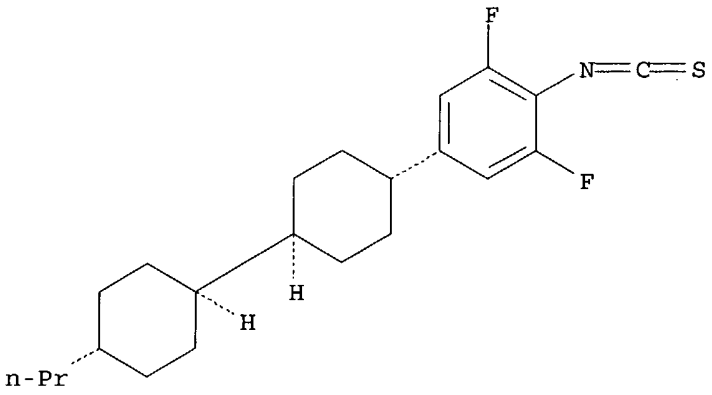
389089-09-2P 389089-10-5P 389089-11-6P 389089-12-7P 389089-13-8P
389089-14-9P 389089-15-0P 389089-16-1P 389127-28-0P 389127-29-1P
389127-30-4P 389127-31-5P 389127-32-6P 389127-33-7P 389127-34-8P
389127-35-9P 389127-36-0P 389127-37-1P 389127-38-2P 389127-39-3P
389127-40-6P 389127-41-7P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of nematic liquid crystal mixture showing excellent properties suitable for liquid crystal display)

IT **243651-32-3P 243651-36-7P**
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of nematic liquid crystal mixture showing excellent properties suitable for liquid crystal display)

RN 243651-32-3 CAPLUS
CN Benzene, 1,3-difluoro-2-isothiocyanato-5-[(trans,trans)-4'-propyl[1,1'-bicyclohexyl]-4-yl]- (9CI) (CA INDEX NAME)

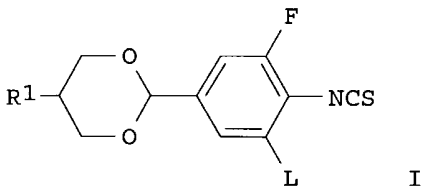
Relative stereochemistry.


F
N
C
S
F
H
H
n-Pr

AN 2002:123147 CAPLUS
DN 136:175558
ED Entered STN: 15 Feb 2002
TI Electrooptical liquid crystal display of IPS (In-Plane-Switching) mode
IN Heckmeier, Michael; Poetsch, Eike
PA Merck Patent G.m.b.H., Germany
SO PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DT Patent
LA German
IC ICM C09K019-34
ICS C09K019-44; C09K019-46
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 75
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002012415	A1	20020214	WO 2001-EP7980	20010711
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2001070629	A5	20020218	AU 2001-70629	20010711
JP 2004517972	T2	20040617	JP 2002-517707	20010711
DE 10133867	A1	20020411	DE 2001-10133867	20010712
US 2003207045	A1	20031106	US 2003-343768	20030204
PRAI DE 2000-10038859	A	20000804		
WO 2001-EP7980	W	20010711		

OS MARPAT 136:175558
GI



I

AB The invention relates to an electrooptical liquid crystal display comprising a reorientation layer for reorientation of the liquid crystals. The field of said reorientation layer has a component parallel to the liquid crystal layer, said component being crucial for the reorientation. Said component comprises a liquid-crystalline medium having a pos. dielec. anisotropy and contains at least one mesogenic compound of the formula I (R1 = C≤15 alkyl, alkenyl; L = H, F).

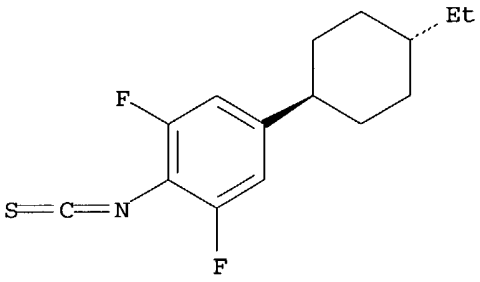
ST electrooptical IPS liq crystal display reorientation layer mesogenic compd

IT Liquid crystal displays
(liquid crystal mixture suitable for electrooptical liquid crystal display of
IPS (In-Plane-Switching) mode with reorientation layer)

IT Liquid crystals
(nematic; liquid crystal mixture suitable for electrooptical liquid crystal

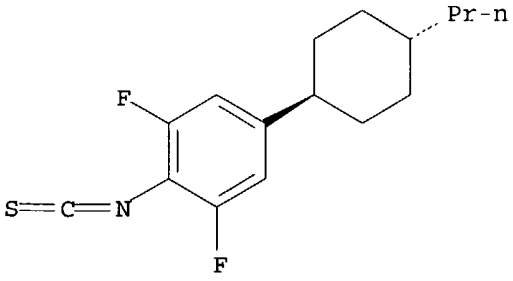
display of IPS (In-Plane-Switching) mode with reorientation layer)
IT 41122-70-7 74240-64-5 81936-32-5 84540-37-4 86776-50-3
92263-41-7 116020-44-1 129738-34-7 133937-72-1 135520-41-1
135734-59-7 142400-92-8 155041-85-3 181943-55-5 279246-65-0
288579-85-1 288579-86-2 326894-55-7 385435-68-7 **389088-69-1**
389088-70-4 397883-56-6
RL: TEM (Technical or engineered material use); USES (Uses)
(liquid crystal mixture suitable for electrooptical liquid crystal display
of
IPS (In-Plane-Switching) mode with reorientation layer)
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Dabrowski, R; LIQUID CRYSTALS 1998, V24(4), P583 CAPLUS
(2) Merck Patent Gmbh; DE 19528104 A 1997 CAPLUS
(3) Merck Patent Gmbh; DE 19811456 A 1999 CAPLUS
IT **389088-69-1 389088-70-4**
RL: TEM (Technical or engineered material use); USES (Uses)
(liquid crystal mixture suitable for electrooptical liquid crystal display
of
IPS (In-Plane-Switching) mode with reorientation layer)
RN 389088-69-1 CAPLUS
CN Benzene, 5-(trans-4-ethylcyclohexyl)-1,3-difluoro-2-isothiocyanato- (9CI)
(CA INDEX NAME)

Relative stereochemistry.



RN 389088-70-4 CAPLUS
CN Benzene, 1,3-difluoro-2-isothiocyanato-5-(trans-4-propylcyclohexyl)- (9CI)
(CA INDEX NAME)

Relative stereochemistry.



AN 2002:36629 CAPLUS
DN 136:110201
ED Entered STN: 15 Jan 2002
TI Liquid crystal compound, nematic liquid crystal mixture, and polymer dispersion liquid crystal display
IN Poetsch, Eike; Meyer, Volker; Krause, Joachim; Manabe, Atsutaka
PA Merck Patent G.M.B.H., Germany
SO Jpn. Kokai Tokkyo Koho, 40 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09K019-42
ICS C09K019-12; C09K019-16; C09K019-30; G02F001-13; G02F001-1334
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 75
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002012871	A2	20020115	JP 2001-137750	20010508
PRAI	EP 2000-109163	A	20000508		

OS MARPAT 136:110201
AB The invention relates to a nematic liquid crystal mixture containing a pos. anisotropic compound(s) showing Δn of ≥0.30 (at 20°, 589.3 nm) represented by R1-A11-Z11-[A12-Z12]n-A13-NCS (R1 = C1-12-alky, Cl, OCF3, CN, NCS, F; Z11, Z12 = trans-CH:CH-, -CH:CF-, -CF:CH-, -CF:CF-, single bond; A11 = trans-1,4-cyclohexylene, 1,4-phenylene, 1,4-phenylene with F-substituent(s); A12, A13 = 1,4-phenylene, 1,4-phenylene with F-substituent(s); n = 0, 1) and a pos. anisotropic compound(s) represented by R2-[A21]n-A22-A23-X2 (R2 = C1-12-alky, Cl, OCF3, CN, NCS, F; Z11, Z12 = trans-CH:CH-, -CH:CF-, -CF:CH-, -CF:CF-, single bond; A21 = trans-1,4-cyclohexylene, 1,4-phenylene, 1,4-phenylene with F-substituent(s); A22, A23 = 1,4-phenylene, 1,4-phenylene with F-substituent(s); X2 = CN, F, Cl; n = 0, 1). The liquid crystal mixture, showing wide-nematic-phase temperature ranges and low viscosity, is especially suitable for (holog.) polymer dispersed liquid crystal displays.
ST nematic liq crystal mixt polymer dispersion display
IT Liquid crystal displays
(nematic liquid crystal mixture especially suitable for holog. polymer dispersion
liquid crystal display)
IT Liquid crystals
(nematic; nematic liquid crystal mixture especially suitable for holog. polymer
dispersion liquid crystal display)
IT 38190-45-3 40817-08-1 52709-86-1 54211-46-0 63617-61-8
99217-32-0 99602-91-2 104569-87-1 104569-88-2 116831-09-5
132123-39-8 137019-94-4 137019-95-5 219939-28-3 219939-29-4
281680-31-7 313472-50-3 316364-68-8 356797-91-6 356797-92-7
356797-93-8 356797-97-2 356797-99-4 356798-03-3 356798-05-5
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388625-25-0 388625-26-1 388625-28-3 388625-29-4 388625-31-8
388625-33-0 388625-42-1 388625-45-4
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(nematic liquid crystal mixture especially suitable for holog. polymer dispersion
liquid crystal display)
IT 288-32-4, Imidazole, reactions 463-71-8, Thiophosgene 6160-65-2
67567-26-4, 4-Bromo-2,6-difluoroaniline 143651-26-7, Boronic acid, [4-(4-pentylcyclohexyl)phenyl]-, trans- 388623-07-2 388623-85-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of nematic liquid crystal mixture especially suitable for holog. polymer

dispersion liquid crystal display)

IT 138074-14-3P 385435-64-3P 385435-68-7P 385435-69-8P
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388623-57-2P 388623-58-3P 388623-59-4P 388623-60-7P 388623-62-9P
388623-63-0P **388623-64-1P 388623-65-2P**
388623-66-3P 388623-67-4P 388623-68-5P
388623-69-6P 388623-70-9P 388623-71-0P
388623-72-1P 388623-73-2P 388623-74-3P 388623-75-4P
388623-76-5P 388623-77-6P 388623-78-7P 388623-79-8P 388623-80-1P
388623-82-3P 388623-83-4P 388623-84-5P 388623-86-7P 388623-88-9P
388623-90-3P 388623-91-4P 388623-93-6P 388623-94-7P 388623-95-8P
388623-96-9P 388623-97-0P 388623-98-1P 388623-99-2P 388624-00-8P
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388624-50-8P **388624-51-9P 388624-52-0P**
388624-53-1P 388624-54-2P 388624-55-3P
388624-56-4P 388624-58-6P 388624-59-7P
388624-60-0P 388624-61-1P 388624-62-2P
388624-63-3P 388624-64-4P 388624-65-5P
388624-66-6P 388624-67-7P 388624-68-8P
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388624-73-5P 388624-74-6P 388624-75-7P
388624-76-8P 388624-77-9P 388624-78-0P
388624-80-4P 388624-81-5P 388624-83-7P 388624-84-8P 388624-85-9P
388624-86-0P 388624-92-8P 388624-93-9P 388624-94-0P 388624-95-1P
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388625-01-2P 388625-02-3P 388625-03-4P 388625-04-5P 388625-05-6P
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388625-11-4P 388625-12-5P 388625-13-6P 388625-14-7P 388625-15-8P
388625-16-9P 388625-17-0P 388625-18-1P 388625-19-2P 388625-20-5P
388625-21-6P 388625-22-7P 388625-23-8P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of nematic liquid crystal mixture especially suitable for holog. polymer
dispersion liquid crystal display)

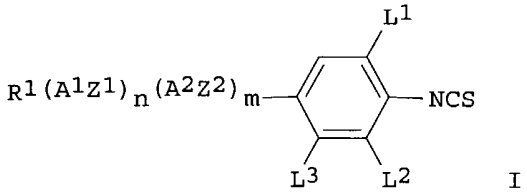
IT **388625-33-0**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(nematic liquid crystal mixture especially suitable for holog. polymer dispersion
liquid crystal display)

RN 388625-33-0 CAPLUS
CN [1,1':4',1''-Terphenyl]-4-carbonitrile, 3'-fluoro-4''-propyl-, mixt. with 4-butyl-2,6-difluoro-4''-isothiocyanato-1,1':4',1''-terphenyl, 4-butyl-2'-fluoro-4''-isothiocyanato-1,1':4',1''-terphenyl, 3,5-difluoro-4-isothiocyanato-4'-(trans-4-methylcyclohexyl)-1,1'-biphenyl, 3,5-difluoro-4-isothiocyanato-4'-(trans-4-propylcyclohexyl)-1,1'-biphenyl, 4'-(trans-4-ethylcyclohexyl)-3,5-difluoro-4-isothiocyanato-1,1'-biphenyl, 4-(5-phenyl-2-pyridinyl)benzonitrile and 2,3',5'-trifluoro-4'-

AN 2003:114233 CAPLUS
DN 138:145213
ED Entered STN: 14 Feb 2003
TI Liquid crystal compounds for liquid crystal mixture suitable for liquid crystal display
IN Kirsch, Peer; Unger, Gerald; Lenges, Marc; Krause, Joachim; Heckmeier, Michael
PA Merck Patent GmbH, Germany
SO Ger. Offen., 80 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C07C331-28
ICS C07D319-04; C09K019-06; G02F001-137; G09F009-35; C07D339-08; C07D213-04
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 75
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 10229476	A1	20030213	DE 2002-10229476	20020701
GB 2379442	A1	20030312	GB 2002-17060	20020723
JP 2003176265	A2	20030624	JP 2002-216482	20020725
US 2003216554	A1	20031120	US 2002-202633	20020725
US 6723866	B2	20040420		
PRAI DE 2001-10136188	A1	20010725		

OS MARPAT 138:145213
GI



I

AB The invention relates to liquid crystalline compds. of the formula I (R1 = C1-15-alkyl; A1, A2 = 1,4-cyclohexenylene, 1,4-cyclohexylene, etc.; Z1, Z2 = -COO-, -OCO-, etc.; n = 0, 1, 2; m = 1, 2; L1-3 = H, F, Cl), their synthesis, as well as liquid crystalline media containing at least one of the compds., and electrooptical displays containing such a liquid crystalline medium.

ST liq crystal compd synthesis mixt display

IT Liquid crystal displays
(liquid crystal compds. for liquid crystal mixture suitable for liquid crystal display)

IT Liquid crystals
(nematic; liquid crystal compds. for liquid crystal mixture suitable for liquid crystal display)

IT 76802-59-0 76802-61-4 81711-13-9 84816-56-8 102714-93-2 106349-49-9 121219-85-0 133914-49-5 133914-50-8 133937-72-1 135734-59-7 135734-60-0 137528-82-6 137528-84-8
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(liquid crystal mixture suitable for liquid crystal display)

IT 100-02-7, 4-Nitrophenol, reactions 109-80-8, 1,3-Propanedithiol 124-38-9, Carbon dioxide, reactions 1493-13-6, Trifluoromethanesulfonic

acid 2713-34-0, 3,5-Difluorophenol 6160-65-2, Thiocarbonylbisimidazole
26386-88-9 65355-32-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of liquid crystal compds. for liquid crystal mixture suitable
for
liquid crystal display)

IT 358732-12-4P 494213-17-1P 494213-18-2P 494213-20-6P 494213-21-7P
494213-22-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation of liquid crystal compds. for liquid crystal mixture suitable
for
liquid crystal display)

IT 494213-19-3P **494213-23-9P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(preparation of liquid crystal compds. for liquid crystal mixture suitable
for
liquid crystal display)

IT **494213-23-9P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(preparation of liquid crystal compds. for liquid crystal mixture suitable
for
liquid crystal display)

RN 494213-23-9 CAPLUS
CN Benzene, 5-[difluoro[(trans,trans)-4'-propyl[1,1'-bicyclohexyl]-4-
yl]methoxy]-1,3-difluoro-2-isothiocyanato- (9CI) (CA INDEX NAME)

Relative stereochemistry.